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TO OUR FILE NO.
Bakersfield
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February 19, 2016

Via Federal Express and

Email: UIC.Regulations@conservation.ca.gov

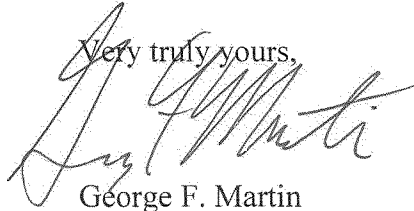
Department of Conservation
801 K Street, MS 24-02
Sacramento, CA 95814

ATTN: UIC Discussion Draft
Underground Injection Control Regulations

Re: Comments by Committee to Protect our
Agricultural Water

To Whom It May Concern:

The Committee to Protect Our Agricultural Water joins in the challenges to the "updates" proposed by the Division of Oil, Gas & Geothermal Resources ("DOGGR") to the underground injection control regulations. Specific comments are enclosed.

Very truly yours,

George F. Martin

GFM/ksn
Enclosure

Comments by Committee to Protect our Agricultural Water

“Updated Underground Injection Control Regulations”

Gray Boxes – Text of New Regulation

White Boxes – Comments re New Regulation

1720.1. Definitions:

(a) “Area of review” means an area that includes a radius around each injection well that is part of an underground injection project, the radius being the greater of (1) or (2).

(1) The radius shall be at least the calculated lateral distance in which the pressures in the injection zone may cause the migration of the injection fluid or the formation fluid out of the intended zone of injection; and

(2) The radius shall be at least:

(A) One quarter mile for an injection well that is not a cyclic steam; or

(B) 300 feet for an injection well that is a cyclic steam well.

The definition of area of review does not adequately protect California’s underground water.

- There is no formula or explanation as to how the “lateral distance” is determined. Is this being determined by using Title 40 of the Code of Federal Regulations, section 146.6? If it is, the definition should state as much. If not, please specify how this distance will be determined.
- “[P]ressures” is not defined. Pressure should be defined to confirm it includes all of the following: (a) pressures from the injection well itself, (b) pressures from other fluids underground, (c) pressures from geological formations, (d) pressures from seismic activity; (e) pressures from nearby injection wells and well stimulation injections; (f) pressures from gravity.
- Migration should be expanded to state migration “out of the intended zone of injection or into underground sources of drinking water.”
- The radius for cyclic steam should be the same as the radius for all injections.

1720.1. Definitions (continued):

(e) “Underground injection project” means sustained or continual injection into one or more wells over an extended period in order to add fluid to a zone for the purpose of enhanced oil recovery, disposal, or storage. Examples of underground injection projects include waterflood injection, steamflood injection, cyclic steam injection, injection disposal, and gas storage projects

“Injection disposal” is vague and should be clearly defined to state “waste water injection disposal.”

Poison gas injection disposal is not lawful. The EPA notified DOGGR in the summer of 2011 that DOGGR could not issue permits for injection disposal of poison gases. This appears

to be a back door attempt to give oil companies like Chevron and Aera (jointly owned by Shell and Exxon) the right to illegally inject poison gas underground.

1724.6. Approval of Underground Injection and Disposal Projects

(b) The Project Approval Letter shall specify the location and nature of the underground injection project, as well as the conditions of the Division's approval. Modification of an underground injection project is subject to approval by the Division and shall be noted in either an addendum to the Project Approval Letter or a revised Project Approval Letter. Underground injection project operations shall not occur unless consistent with the terms and conditions of a current Project Approval Letter. Regardless of the contents of a Project Approval Letter, injection suspended under Section 1724.10(l) shall not resume without subsequent approval from the Division.

This paragraph suggests DOGGR may approve a project in violation of the Safe Drinking Water Act, the California Public Resources Code and all similar legislative requirements for injection wells in California. Revise “Underground injection project operations shall not occur unless consistent with the terms and conditions of a current Project Approval Letter” to instead state:

“Underground injection project operations shall not occur unless consistent with the terms and conditions of a current Project Approval Letter, the Safe Drinking Water Act and all other applicable statutes and regulations.”

1724.6. Approval of Underground Injection and Disposal Projects (continued)

(c) The Division will review underground injection projects to verify adherence to the terms and conditions of the Project Approval Letter, and will periodically review the terms and conditions of the Project Approval Letter to ensure that they effectively prevent damage to life, health, property, and natural resources. Approval of an underground injection project is at the Division's ongoing discretion and a Project Approval Letter is subject to suspension, modification, or rescission by the Division.

This paragraph must be clarified to avoid all attempts by oil and gas companies to claim immunity from liability. As written, there are several potential problems including:

- This regulation states that DOGGR will “verify adherence to the terms and conditions of the Project Approval Letter . . . to ensure that they effectively prevent damage to life, health, property, and natural resources.”
 - This paragraph constitutes an unconstitutional taking of property to the extent this provision gives DOGGR the authority to immunize oil and gas companies from liability (including liability for oil and gas spills on real property) simply because DOGGR verifies adherence to the approval letter. This language is unnecessary and a violation of due process under the United States Constitution and the California Constitution.

- To be clear, DOGGR was told through 2014 that SoCalGas had subsurface safety valves on SS25. SoCalGas did not. This demonstrates how DOGGR has failed to protect the public and cannot be allowed to determine that operations “effectively prevent damage to life, health, property, and natural resources.”
- The following should be added to this paragraph: “Nothing in this paragraph precludes any citizen of California from seeking all available remedies in court arising from injection wells that damage to life, health, property, and natural resources.”
- This paragraph further states that approval is subject to “the Division’s ongoing discretion” – this is problematic for several reasons including:
 - First, it requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
 - Second, under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
 - Third, this provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc. v. U.S. E.P.A. (11th Cir. 1997) 118 F.3d 1467, 1478.

1724.6. Approval of Underground Injection and Disposal Projects (continued)

(d) If the Division determines that operation of an underground injection project is inconsistent with the terms and conditions of a current Project Approval Letter, or otherwise poses a threat to life, health, property, or natural resources, then upon written notice from the Division injection operations shall cease immediately, or as soon as it is safe to do so.

This paragraph must be clarified to avoid all attempts by oil and gas companies to claim that DOGGR alone has the authority to order oil and gas companies to “cease” injections.

The following sentence must be added to allow for private civil remedies.

- “Nothing in this paragraph precludes any citizen of California from seeking all available remedies in court arising from injection wells that damage to life, health, property, and natural resources.”

DOGGR cannot be allowed to deprive the citizens of California of their constitutional right to protect their life, health, and property by seeking injunctive relief against oil and gas companies.

1724.7. Project Data Requirements

(a) An underground injection project shall be supported by data filed with the Division that demonstrates to the Division's satisfaction that injected fluid will be confined to the approved zone or zones of injection and that the underground injection project will not cause damage to life, health, property, or natural resources.

This paragraph must be clarified to avoid all attempts by oil and gas companies to claim immunity from liability.

- This paragraph constitutes an unconstitutional taking of property to the extent this provision gives DOGGR the authority to immunize oil and gas companies from liability (including liability for oil and gas spills on real property) simply because DOGGR is "satisf[ied] ...that the underground injection project will not cause damage to life, health, property, or natural resources."
- To be clear, DOGGR was told through 2014 that SoCalGas had subsurface safety valves on SS25. SoCalGas did not. This demonstrates how DOGGR failed to protect the public and cannot be allowed to determine that operations "will not cause damage to life, health, property, or natural resources."
- To protect the people of California, the following should be added to this paragraph: "Nothing in this paragraph precludes any citizen of California from seeking all available remedies in court arising from injection wells that damage to life, health, property, and natural resources."

DOGGR cannot be allowed to deprive the citizens of California of their constitutional right to protect their life, health, and property by seeking all available remedies including damages and injunctive relief against oil and gas companies.

1724.7. Project Data Requirements (continued)

(a)(1)(D) A map of the area of review showing the location and status of all wells within and adjacent to the boundary of the area of review. The wellbore path of directionally drilled wells shall be shown, with indication of the interval penetrating the injection zone of the underground injection project.

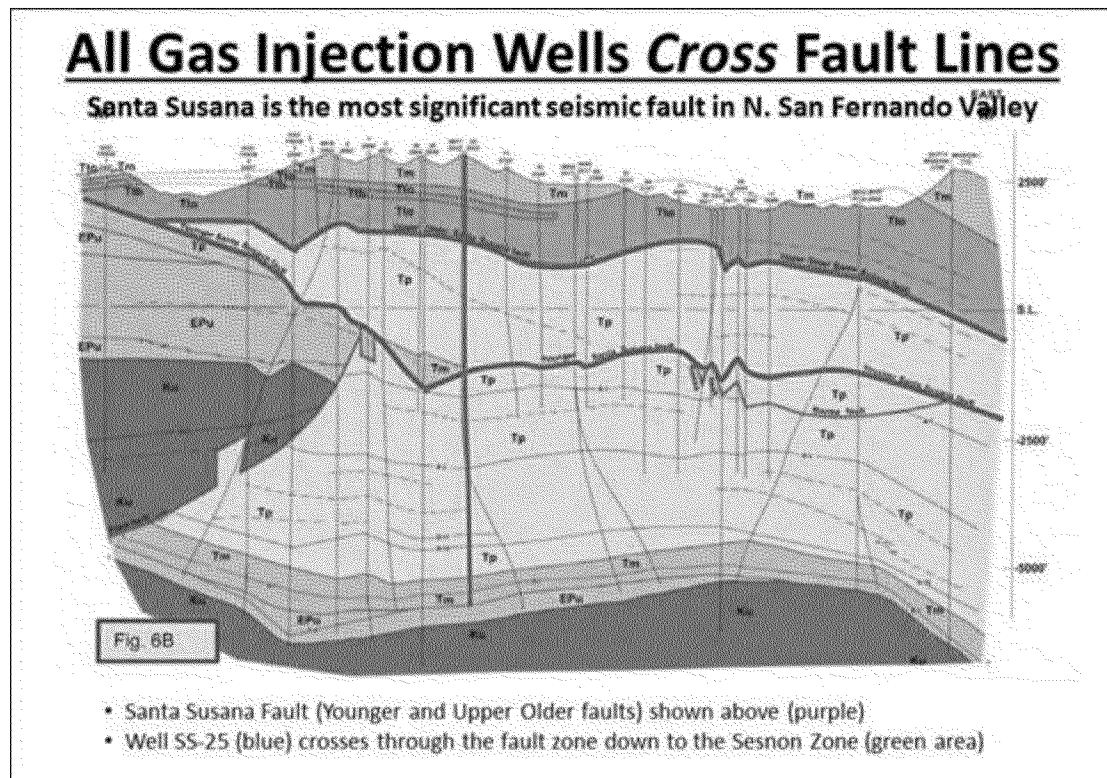
The disaster in Porter Ranch has increased fear and distrust because none of the residents can easily (if at all) determine from DOGGR records where the plume of natural gas migrated after the blowout. Records must be visible to increase public trust.

All oil and gas companies injecting gas, water or steam underground must provide cross-section maps showing all of the following:

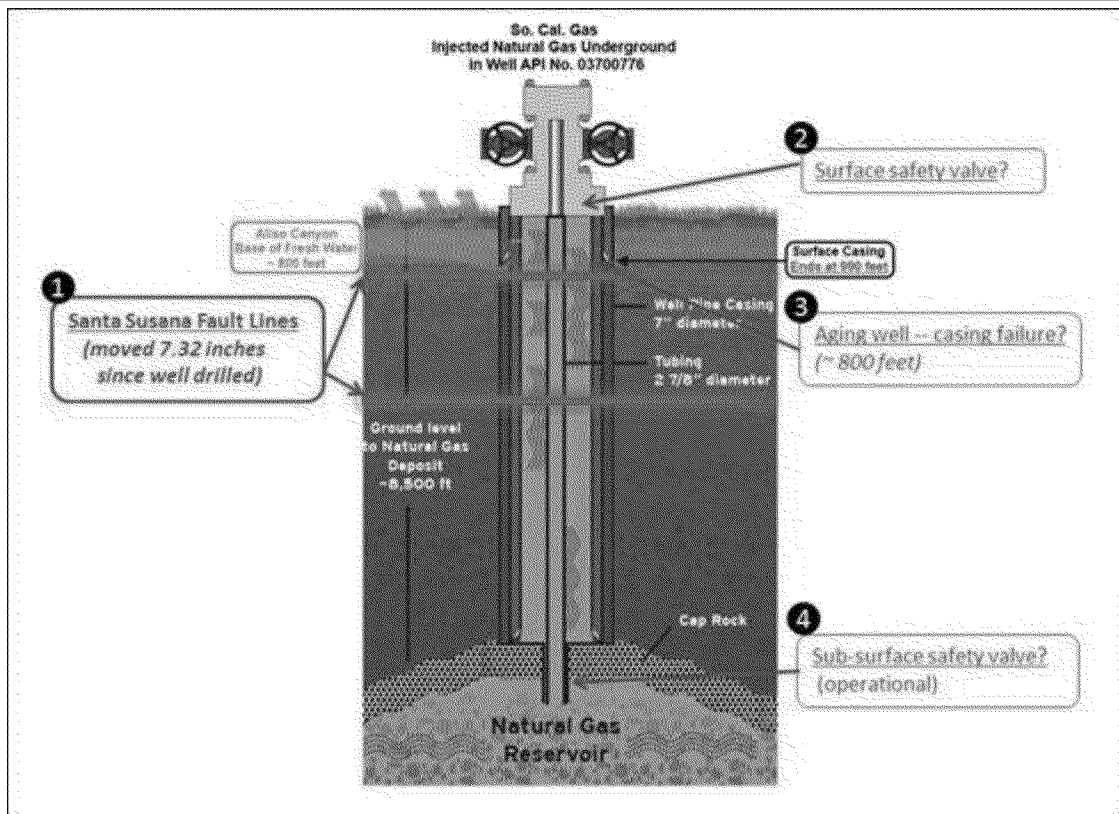
- (1) all of the underground geological layers (strata) intersected by wells in the project area;
- (2) the porosity of each layer (stratum);

- (3) the rate of movement of the injected substance through that layer (stratum) in the event of a blowout;
- (4) the base and full depth of underground sources of water including fresh water;
- (5) intersection of all fault lines through wells in the project area;
- (6) casing diagrams for all wells showing the integrity of the wells, the intersection of all fault lines and the depth of all geological layers.
- (7) location of residential homes in comparison to the project, including a map showing the underground geology as it intersects into the housing development.

If these maps showed the underground layers and the items requested above (e.g., porosity, rate of movement, and location of housing), farmers would know the safety of their water.



Similarly, the public has a right to see the casing diagrams for all wells in an injection facility to determine basic information like the presence of fault lines, fresh water, subsurface safety valves, and aging well casings. .

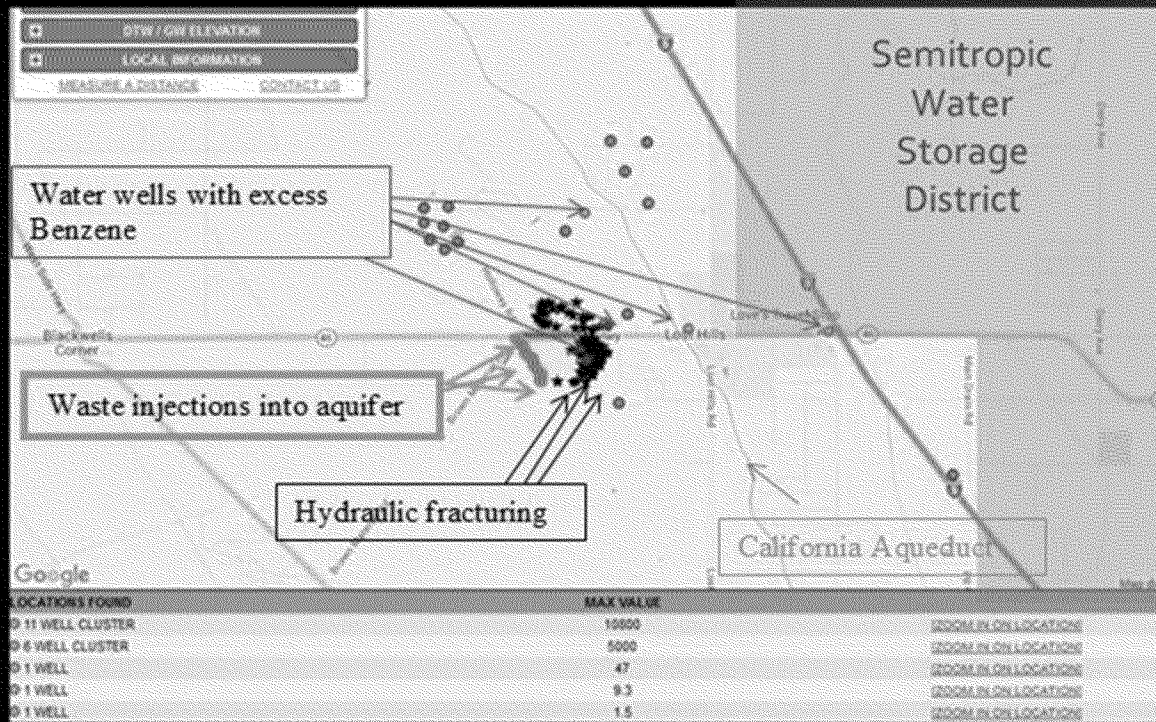


Similarly, DOGGR and the California State Resources Board must work with local water agencies to map out the injection wells and water contamination hot spots.

The next map is an overlay of two state maps and shows the curious proximity of wells injecting directly into protect water and benzene at levels 10,800 times the allowable limit. Such information should be provided to all residents of California to allow them to protect their communities from underground injection wells.

Benzene – Should not Exceed 1

Water wells with Benzene at 10,800



- The red dots are water wells with excess benzene.
- The orange dots show injection wells that DOGGR admits go directly into the aquifer (orange dots). Oil companies dispose of contaminated waste water through 8 waste wells injecting directly into the aquifer in the clusters.
- The stars are hydraulic fracturing wells. There are at least 103 wells used for hydraulic fracturing in this area according to DOGGR's website.

1724.7. Project Data Requirements (continued)

(E) Casing diagrams, including cement plugs, and actual or calculated cement fill behind casing all data specified in Section 1724.7.1, of all idle, plugged and abandoned, or deeper-zone producing wells that are within the area of review and that are in the same or a deeper zone as the injection project, including directionally drilled wells that intersect the area of review in the same or deeper zone. affected by the project, and evidence that plugged and abandoned. The casing diagrams must demonstrate that the wells in the area will not be a potential conduit for fluid to migrate outside of the approved zone of injection or otherwise have an adverse effect on the project or cause damage to life, health, property, or natural resources. At a minimum, the casing diagrams must demonstrate that:

- (i) Plugged and abandoned wells have cement across all perforations and extending at

least 500 feet, if shown by calculation, or 100 feet, if shown by cement bond log or other method approved by the Division, above the highest of the top of a landed liner, the uppermost perforations, the casing cementing point, the water shutoff holes, the intended zone of injection, or the oil and gas zone; and

(ii) Wells that are not plugged and abandoned and that have not been used for injection or production for more than two years have cement plugs across all hydrocarbon zones, the base of the USDW interface, and the base of the freshwater interface.

The revisions above, especially the highlighted in yellow, added to decrease the times when oil companies must provide engineering studies. Instead of requiring studies for all potential pathways, the change now only requires engineering studies and casing diagrams for wells that “are in the same or a deeper zone as the injection project.”

As a result, DOGGR is no longer requiring casing diagrams for shallower wells. If there is a blowout, it will be impossible to tell where the gas or contaminated water will migrate if there are insufficient geological and engineering studies at all levels of the oilfield.

Moreover, casing diagrams are very inexpensive. The only expense is if the oil or gas company has to remediate the well. Remediation is a good thing. DOGGR should encourage all oil and gas companies to provide casing diagrams to allow for the ease of determination of what wells need remediation to avoid having them serve as conduits in bringing contaminants up. Also, by leaving out shallower wells, DOGGR is ignoring the old wells from bygone days that are in the worst of all shape.

DOGGR should add “into underground supplies of drinking water” as follows: “*The casing diagrams must demonstrate that the wells in the area will not be a potential conduit for fluid to migrate outside of the approved zone of injection, into underground source of drinking water, or otherwise have an adverse effect on the project or cause damage to life, health, property, or natural resources.*”

This paragraph also includes provisions that will be used by oil and gas companies to assert that they are not liable for any damages – specifically, this paragraph suggests that DOGGR will issue a permit when it concludes there is no “adverse effect on the project or cause damage to life, health, property, or natural resources.”

To protect the people of California, the following should be added to this paragraph: “Nothing in this paragraph precludes any citizen of California from seeking all available remedies in court arising from injection wells that damage to life, health, property, and natural resources.” DOGGR cannot be allowed to deprive the citizens of California of their constitutional right to protect their life, health, and property by seeking all available remedies including damages and injunctive relief against oil and gas companies.

1724.7. Project Data Requirements (continued)

(a) (2) (b) A geologic study, including but not limited to:

See comments re 1724.7. Project Data Requirements, paragraph (D)

All studies and maps should be easy to understand and readily available to the public to address the risks to their families, pets, and homes.

1724.7. Project Data Requirements (continued)

(a) (4) The results of step rate tests, conducted in accordance with Section 1724.7.3, for each injection well that is part of the underground injection project. Subject to approval from the Division, this requirement may be satisfied by providing representative step rate test data from select wells within the underground injection project in order to establish a conservative estimated baseline fracture gradient for the entire area of the underground injection project. The Division will approve the use of an estimated baseline fracture gradient if, based on consideration of geologic, engineering, and operational factors, it is satisfied that the estimated baseline fracture gradient is lower than the actual fracture gradient that would be encountered anywhere in the area. If an estimated baseline fracture gradient is approved, a higher fracture gradient may be established for a specific well within the underground injection project, if the higher fracture gradient is supported by a well-specific step rate test conducted in accordance with Section 1724.7.3.

This paragraph attempts to create a new procedure for the testing being done to determine the maximum pressure used to inject gas or water underground. Injection wells are known for their tendency to increase earthquakes, and thus, the maximum allowable pressure is supposed to be below the level at which the earth will be cracked open (the fracture gradient).

This completely new regulation creates significant problems because it increases the probability of earthquakes and of increasing cracks that will cause contaminants to migrate underground. It must be eliminated entirely to protect the people of California:

- This regulation creates an *estimated* baseline gradient – not the actual gradient – at which the earth will crack. The actual fracture gradient for each well is what should be used because it will vary based upon location and depth of the injection well.
- This regulation furthermore creates discretion to determine whether the baseline gradient can be used for other wells given “consideration of geologic, engineering, and operational factors.”
 - All discretion requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
 - Under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
 - This provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of

the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc. v. U.S. E.P.A. (11th Cir. 1997) 118 F.3d 1467, 1478.

1724.7. Project Data Requirements (continued)

(a) (5) Copies of letters of notification sent to offset operators adjacent to the proposed project area and within the area of review.

It is unclear whether any provision, including this provision, of the regulations would require notice to neighborhoods impacted by injection well operations. It is constitutionally improper to not give notice to the neighboring property owners of all new injection well permits. It is, moreover, the only way for the public to know what is happening and have a voice in their community to protect their families.

The regulations should specifically provide notice to all residents who could be impacted by the operations of any injection well upon DOGGR's receipt of the permit application. The determination of impact should be based upon the likely migration of gas or oil into the community using (1) established wind patterns and (2) underground layers (strata) where gas or oil may migrate.

1724.7. Project Data Requirements (continued)

(a) (8) Any data that, in the judgment of the Supervisor, are pertinent and necessary for the proper evaluation of the underground injection project.

This regulation may be interpreted by oil and gas companies to ask the Supervisor to request less, not more information. To avoid any disputes, this paragraph should be revised as follows:

(a) (8) Any data that, in the judgment of the Supervisor, are pertinent and necessary for the proper evaluation of the underground injection project, provided all data meets the minimum requirements of the Safe Drinking Water Act and California's regulations implementing that act.

To the extent this gives any discretion, the permit and project must undergo CEQA in accordance with the comments above.

1724.7. Project Data Requirements (continued)

(b) When a new injection well is added to an underground injection project it is not necessary to duplicate data already provided to the Division, except that updated data shall be provided to the Division if conditions have changed or if more accurate data has become available.

This paragraph is a grandfathering clause. As a result, it creates multiple problems because it appears to exempt oil and gas companies from having to provide updated geological and engineering studies otherwise required to get a permit if the oil and gas companies claim there was no change. The perpetuation of errors should not be allowed by creating a caveat

where updated information is not mandatory for every new permit and every project change.

In addition, this paragraph suggests that DOGGR could approve permits without all of the required data if it believed there were no changes. This is problematic for several reasons including the following:

- It requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
- Under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
- This provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc. v. U.S. E.P.A. (11th Cir. 1997) 118 F.3d 1467, 1478.

1724.7. Project Data Requirements (continued)

(d) Where it is infeasible to supply the data specified in subdivision (a), the Division may accept alternative data, provided that the alternative data demonstrates to the Division's satisfaction that injected fluid will be confined to the approved zone or zones of injection and that the subsurface injection or disposal project will not cause damage to life, health, property, or natural resources.

This paragraph is an improper attempt to undermine the requirements of a federal law, the Safe Drinking Water Act. There is no discretion allowed in enforcing federal laws to protect our water.

In addition, this paragraph suggests that DOGGR could approve permits without all of the required data if it believed there were no changes. This is problematic for several reasons:

- It requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
- Under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
- This provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc.

1724.7.2. Injection Fluid Analysis

(a) Injection fluid analysis required under this Article shall include testing for all of the following: total dissolved solids; metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A); aluminum; antimony; arsenic; barium; beryllium; boron; cadmium; calcium; chromium; cobalt; copper; iron; lead; lithium; magnesium; manganese; mercury; molybdenum; nickel; potassium; selenium; silver; sodium; strontium; thallium; vanadium; zinc; Polynuclear Aromatic Hydrocarbons including, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, benzo(g,h,i)perylene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene; radiomucclides including, Gross alpha particle activity, Gross beta particle activity, Radium-226, Radium-228, Strontium-90, Tritium, and Uranium.

(b) Injection fluid analysis required under this Article shall be done by a laboratory that is certified by the California Department of Public Health environmental laboratory accreditation program.

This paragraph purports to provide a listing of the most serious poisons injected underground, but it is missing several key poisons:

- Benzene
- Ethyl-Benzene
- Nitrates and other contaminants from drilling muds
- Thorium
- Ammonium
- Iodide
- Bromide
- Hydrogen Sulfide
- Sulfur Dioxide.

There should be public disclosure to all impacted residents of the chemicals and disclosure to the local public health department.

Finally, the testing should be done in conjunction with a citizen oversight panel to confirm proper testing. This may include involving local Fire Departments.

1724.7.3. Step Rate Tests

(c) The appropriate district office shall be notified at least 24 hours in advance of conducting a step rate test under Section 1724.7(a)(4) so that Division staff may have an opportunity to witness the step rate test.

All provisions, including this one, that allow self-policing should be eliminated. DOGGR should be present at all testing of injection wells. This is important for the safety of the neighbors and oilfield workers. Only by regular visits and tests can there be an adequate

protection of public safety.

Indeed, the report by SoCalGas showing a sub-surface safety valve on SS25 through 2014 demonstrates how self-policing failed the people of California.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground Injection Projects

(g) All injection wells, except steam, air, and pipeline-quality gas injection wells, shall be equipped with tubing and packer set immediately above the approved zone of injection within one year after the effective date of this act. New or recompleted injection wells shall be equipped with tubing and packer upon completion or recompletion. Exceptions may be made when there is:

- (1) More than one string of casing cemented below the base of fresh water
- (2) Other justification, as determined by the district deputy, based on documented evidence that freshwater USDW and oil zones can be protected without the use of tubing and packer.

This paragraph is an improper attempt to undermine the requirements of a federal law, the Safe Drinking Water Act. There is no discretion allowed in enforcing federal laws to protect our water.

In addition, this paragraph suggests that DOGGR could approve permits without all of the required data if it believed there were no changes. This is problematic for several reasons including:

- It requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
- Under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
- This provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc. v. U.S. E.P.A. (11th Cir. 1997) 118 F.3d 1467, 1478.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground Injection Projects (continued)

(i) *Maximum allowable surface pressure shall equal top perforation depth, in true vertical depth, multiplied by the difference between the injection gradient and the injectate fluid gradient ($MASP = (IG - IFG) * TVD$). The injection gradient used for this calculation shall be 0.95 multiplied by the fracture gradient as determined under Section*

1724.7(a)(4). The Division may approve a higher maximum allowable surface injection pressure based on a conclusive demonstration by the operator that the injected fluid will remain confined to the intended zone of injection.

This paragraph (combined with the new procedure for step testing) allows operators to inject at extremely high pressures that may fracture the rocks. Injection wells are known for their tendency to increase earthquakes, and thus, the maximum allowable pressure is supposed to be below the level at which the earth will be cracked open (the fracture gradient).

- This regulation gives discretion to approve a “higher maximum allowable surface injection pressure based on a conclusive demonstration by the operator that the injected fluid will remain confined to the intended zone of injection.”
 - What is the “conclusive demonstration?” This will ultimately require an analysis by DOGGR of the injection and its discretion in allowing higher injections. All discretion requires evaluation under the California Environmental Quality Act (both for these regulations and any subsequent use of discretion).
 - Under state law, the only DOGGR employee with discretion is the State Oil & Gas Supervisor. And under the primacy agreement with the United States EPA, the State Oil & Gas Supervisor is obligated to enforce the Safe Drinking Water Act (SDWA). There is no discretion for injection wells.
 - This provision would give discretion to the entire division and allow deputies and other officials to give permits to operators *without* complying with the letter of the law. Such discretion is not justified and constitutes a violation of the Safe Drinking Water Act (SDWA). Legal Environmental Assistance Foundation, Inc. v. U.S. E.P.A. (11th Cir. 1997) 118 F.3d 1467, 1478.
 - This regulation, moreover, only considers the impact of excess pressures on whether the gas or water remains confined in the intended zone. What about earthquakes that overtime create fissures and cracks? Injection wells are known for causing earthquakes.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground Injection Projects (continued)

(j) A mechanical integrity test (MIT) must be performed on all injection wells to ensure the injected fluid is confined to the approved zone or zones. An MIT shall consist of a two-part demonstration as provided in subsections subdivisions (j)(1) and (2).

(1) Prior to commencing injection operations, each injection well must pass a pressure test of the casing-tubing annulus to determine the absence of leaks. Thereafter, the annulus of casing of each well must be tested at least once every five years; prior to recommencing injection operations following the repositioning or replacement of downhole equipment; or whenever requested by the appropriate Division district deputy. The casing shall be tested to the maximum allowable surface pressure, or 200 psi, whichever is greater. With approval from the Division,

casing may be tested at a lower pressure, provided that there is a corresponding reduction of the maximum allowable surface pressure for the injection well. Pressure testing is required even if the well is no longer an active injection well, unless the well is no longer approved for injection and it is producing oil or gas.

This regulation should require testing every year, not every five years. In addition, there is no basis for allowing testing at lower pressures than used when the well is in operation. Such lower pressure testing will give false pass rates when compared to what would happen if the well was tested with maximum pressure. Finally, it is not clear why DOGGR would ever give such approval, and thus, this regulation creates unfettered discretion in violation of the Safe Drinking Water Act and requiring compliance with CEQA.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground Injection Projects (continued)

(j)(2) The second part of the MIT must be performed within three (3) months after injection has commenced. Thereafter, water-disposal injection wells shall be tested at least once each year, or on a testing schedule approved by the Division based upon consideration of the age of the well, geology, and operational factors; waterflood wells shall be tested at least once every two years; and steamflood wells shall be tested at least once every five years. Such testing for mechanical integrity shall also be performed following any significant anomalous rate or pressure change, or whenever requested by the Division. The second part of the MIT is not required if the injection well is inactive, but shall be performed within three months after recommencing injection.

The second part of the MIT is not required for a cyclic steam well that has never injected more than 100 gallons per foot. appropriate Division district deputy. The MIT schedule may be modified by the district deputy if supported by evidence documenting good cause.

This regulation should require testing every year for every well. This regulation also creates discretion to change the schedule based upon “good cause” in violation of the Safe Drinking Water Act and requiring compliance with CEQA.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground Injection Projects (continued)

(j)(4) The appropriate district office shall be notified at least 48 hours before performing either part of the MIT required under this subdivision so that Division staff before such tests/surveys are made, as a Division inspector may witness the operations. Copies of surveys and test results shall be submitted electronically to the Division within 60 days

All provisions, including this one, that allow self-policing should be eliminated. DOGGR should be present at all testing of injection wells. This is important for the safety of the neighbors and oilfield workers. Only by regular visits and tests can there be an adequate protection of public safety.

Indeed, the report by SoCalGas showing a sub-surface safety valve on SS25 through 2014 demonstrates how self-policing failed the people of California.

1724.10. Filing, Notification, Operating, and Testing Requirements for Underground

Injection Projects (continued)

(l) The operator shall cease injection into an injection well and shall not resume injection into the well without subsequent approval from the Division if any of the following occur:

(1) Mechanical integrity testing required under subdivision (j) has not been performed on the well, or notification and results required under subdivision (j)(4) have not been provided to the Division;

(2) The well failed a mechanical integrity, or there is any other indication that the well lacks mechanical integrity;

(3) There is any indication that fluids being injected into the well are not confined to the intended zone of injection;

(4) There is any indication of that damage to life, health, property, or natural resources, or loss of hydrocarbons is occurring by reason of the project;

(5) The operator did not provide information regarding the well as required under Public Resources Code section 3227;

(6) The well has been inactive for more than two years; or

(7) The Division instructs the operator in writing to suspend injection

This regulation should be tightened as follows:

- Add to paragraph 3 that injection wells will cease if there is any evidence of migration to underground sources of water;
- Revise paragraph 6 to state that no further injections if the injection well was idle for more than six months.